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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,173	04/09/2004	Masachika Masuda	123788	8404
25944	7590	10/29/2007		
OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850			EXAMINER KIM, SU C	
			ART UNIT 2823	PAPER NUMBER
			MAIL DATE 10/29/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/821,173

Applicant(s)

MASUDA ET AL.

Examiner

Su C. Kim

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 5-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/19/2007 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

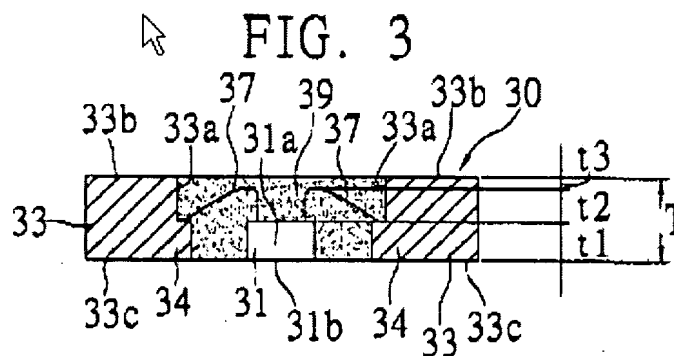
In claim 1, reciting "the contact surfaces of the inner, - - the terminal members are includes in planes respectively, and" is indefinite because the contact surfaces of the inner terminals, the upper surfaces of the outer terminals, the lower surfaces of the outer terminals of the terminal member are in the same plane? or each element is in different plane? Based on Fig. 1 and corresponding text, the contact surfaces 1112a of the inner terminals, the upper surfaces 1111a of the outer terminals, the lower surfaces 1111b of the outer terminals of the terminal member are not in the plane. Clarification is required " - - included in planes respectively".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1- 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang (US 6,630,729) in view of Yagi et al. (US 6,201,292).



Regarding claim 1, Huang discloses a plastic package comprising:

a plurality of terminal members each having an outer terminal 33b 33 33c (Fig. 3) having an upper surface 33b, a lower surface 33c and an outer side surface 33, an inner terminal having a contact surface 34, and a connecting part connecting the outer and the inner terminal 34 (Fig. 3);

a semiconductor device 31 connected to the contact surfaces 34 of the inner terminals with bond wires 37; and

a resin molding sealing 39 the terminal members, the semiconductor device 31 and the bond wires 37 therein;

wherein the inner terminals 34 of the terminal members are thinner than the outer terminals and have the contact surfaces, the contact surfaces of the inner terminals 34, the upper surfaces of the outer terminals 33b, the lower surfaces of the outer terminals 33c of the terminal members are included in planes, respectively, and the upper 33b, the lower 33c and the outer side 33 surfaces of the outer terminals of the terminal members, and a surface of the semiconductor device 31 opposite the surface provided are exposed outside (Fig. 3), and the inner terminals 34, the bond wires 37, the semiconductor device 31 and the resin molding 39 are included in the thickness of the outer terminals (Fig. 3), and wherein the inner terminal 34 is located closer to the semiconductor device 31 than the outer terminal 33, and the inner terminal 34 has a half-etched (col.5, lines 39-42, inner lead can be formed by using etching) upper surface lower than the upper surface 33b of the outer terminal so that the thickness of the inner terminal is thinner than that of the outer terminal (Fig. 3).

Huang fails to teach the semiconductor device provided with terminal pads, and wherein the semiconductor device has a thickness thinner than that of the inner terminals, and each inner terminal is so constructed that the section of the inner terminal is tapered toward the inside.

However, Yagi discloses the semiconductor device 47 provided with terminal pads 47a, and wherein the semiconductor device 47 has a thickness thinner than that of

the inner terminals 42A (Fig. 11), and each inner terminal is so constructed that the section of the inner terminal is tapered 42 toward the inside (Fig. 11).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant(s) claimed invention was made to provide Huang with the semiconductor device provided with terminal pads, and wherein the semiconductor device has a thickness thinner than that of the inner terminals, and each inner terminal is so constructed that the section of the inner terminal is tapered toward the insides taught by Yagi in order to reduce thickness of package.

Regarding claim 2, as applied to claim 1, Huang and Yagi in combinations discloses that the outer terminal of each terminal member 43d has cut part on the outer side surface (Huang, Fig. 4).

Regarding claim 3, as applied to claim 1 above, Huang and Yagi in combination disclose all the limitations including, each terminal is formed of Cu, a Cu-base alloy or a Fe-Ni alloy containing 42% Ni (Yagi, Col. 7, lines 41-57).

Regarding claim 4, as applied to claim 1 above, Huang and Yagi in combination disclose that coating at least portion of lead frame selected from a solder, gold, silver, palladium and tin layer (Yagi, Col. 7, lines 41-57).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Su C. Kim whose telephone number is (571) 272-5972. The examiner can normally be reached on Monday - Thursday, 9:00AM to 7:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Su C Kim
Examiner
Art Unit 2823

10/24/2007



W. DAVID COLEMAN
PRIMARY EXAMINER